

## Claims

1. Thermal electromagnetic radiation detector comprising an absorbent  
5 membrane (1) fixed in suspension onto a front face of a substrate (2), in a  
direction substantially parallel to the substrate (2), by support means thermally  
insulating the membrane (1) from the substrate (2), detector characterized in  
that the support means comprise at least one alveolate structure arranged in a  
plane being substantially perpendicular to the substrate (2).

10

2. Detector according to claim 1, characterized in that the alveolate structure is  
arranged between the absorbent membrane (1) and the substrate (2), along one  
edge of the absorbent membrane (1).

15

3. Detector according to one of the claims 1 and 2, characterized in that the  
support means comprise at least one arm (3) fixedly secured to the absorbent  
membrane (1), each alveolate structure being respectively arranged between  
the corresponding arm (3) and the substrate (2).

20

4. Detector according to claim 3, characterized in that the alveolate structure is  
in contact with an arm (3) by a single bearing point (5).

25

5. Detector according to any one of the claims 1 to 4, characterized in that the  
alveolate structure is formed by a wall presenting a plurality of transverse  
apertures.

6. Detector according to claim 5, characterized in that the wall comprises a  
plurality of superposed thin layers (6) separated by spacers.

7. Detector according to claim 6, characterized in that the spacers are formed by partitions (7) perpendicular to the substrate (2).

5 8. Detector according to claim 6, characterized in that the spacers are formed by hollow cylinders (8) arranged perpendicularly to the substrate (2).

9. Detector according to claim 5, characterized in that the wall comprises at least two superposed rows of arcades (9) formed by thin layers, a first row of  
10 arcades (9) being arranged on the front face of the substrate (2), an arcade (9) of another row being arranged on the top parts of two adjacent arcades (9) of the bottom row.

10. Detector according to any one of the claims 1 to 4, characterized in that the  
15 alveolate structure comprises a porous pad (10).